What is claimed is:

1. A bearing device comprising a shaft, a housing, a double row of ball bearings provided between the shaft and the housing and preloaded by a fixed-position preloading method, the double row of ball bearings having a row of balls, respectively, the balls in one of the rows displaced from the balls in the other row in the radial direction of the ball bearings, the double row of ball bearings having a first and second inner races and a first and second outer races, the first inner race having a radially inner section on the side of the shaft and a radially outer section with a raceway, such that the width of the radially inner section is smaller than the width of the radially outer section, and the second outer race having a radially outer section on the side of the housing and a radially inner section with a raceway, such that the width of the radially outer section is smaller than the width of the radially inner section, and wherein the radially outer section of the first inner race is located radially outside the radially inner section of the second outer race.

2. A bearing device of Claim 1, wherein the rows of the balls are spaced from each other by a distance in the axial direction between the centers of the balls, such that the distance in the axial direction is up to the diameter of the balls, and wherein the rows of balls have a pitch circle, such that the difference in diameter between the pitch circle of one of the rows of balls and the pitch circle of the other row of balls is at least twice the diameter of the balls.

3. A bearing device of one of Claims 1 and 2, wherein the width of the first inner race is larger than the width of the second inner race, such that the radially inner

section of the first inner race is pressed on the radially outer section of the second inner race.

4. A bearing device comprising a pair of outer races each having an inner peripheral surface on which an outer ring raceway is formed, a pair of inner races each having an outer peripheral surface on which an inner ring raceway is formed, a plurality of balls rotatably provided between the outer ring raceway and the inner ring raceway, a retainer provided between the inner peripheral surface of the respective outer races and the outer peripheral surface of the respective inner races to rotatably hold the balls, the pair of outer races having axial end surfaces opposing each other, the pair of inner races having axial end surfaces opposing each other, the pair of outer races fitted into and fixed to an outer member with the axial end surfaces thereof abutted to each other, and the pair of inner races fitted into and fixed to an inner member in the state where a desired preload is applied to the balls by pushing the pair of inner races with a gap between the axial end surfaces thereof to come closer to each other, wherein the axial center of the outer ring raceways is biased toward the side of the abutment of the outer races in the axial direction of the outer races, and wherein the retainer is of the crown type and comprises an annular main portion and a plurality of resilient portions provided on one axial side of the main portion such that a pocket is formed between a pair of circumferentially adjacent resilient portions, and wherein the main portion is provided closer to either axial end of the bearing device and wherein the outer races and inner races have an axial end surface on either axial side of the bearing device, such that the axial end surfaces of the outer races and inner races are placed at substantially the same location in the axial direction.

5. A bearing device comprising an outer race having an inner peripheral surface on which a pair of outer ring raceways are formed, a pair of inner races each having an outer peripheral surface on which an inner ring raceway is formed, a plurality of balls rotatably provided between the outer ring raceways and the inner ring raceways, a pair of retainers provided between the inner peripheral surface of the outer race and the outer peripheral surface of the inner races to rotatably hold the balls, the pair of inner races having axial end surfaces opposing each other, the outer race fitted into and fixed to an outer member, the pair of inner races fitted into and fixed to an inner member in the state where a desired preload is applied to the balls by pushing the pair of inner races with a gap between the axial end surfaces thereof to come closer to each other, wherein the axial center of the outer ring raceways is biased toward the center of the outer race in the axial direction of the outer race, and wherein the retainers are of the crown type and comprise an annular main portion and a plurality of resilient portions provided on one axial side of the main portion such that a pocket is formed between a pair of circumferentially adjacent resilient portions, and wherein the main portion is provided closer to either axial end of the bearing device and wherein the outer race and inner races have an axial end surface on either axial side of the bearing device, such that the axial end surfaces of the outer race and inner races are placed at substantially same location in the axial direction.

6. A bearing device comprising a pair of outer races each having an inner peripheral surface on which an outer ring raceway is formed, a pair of inner races each having an outer peripheral surface on which an inner ring raceway is formed, a plurality of balls rotatably provided between the outer ring raceway and the inner ring

raceway, a cylindrical sleeve provided on the radially inside of the pair of inner rings, the pair of outer races having an axial end surface, respectively, such that the axial end surfaces are opposed to each other, the pair of inner races having an axial end surface, respectively, such that axial end surfaces are opposed to each other, the axial end surfaces of the outer races abutted to each other, the pair of inner races fitted onto and fixed to the sleeve in the state where a desired preload is applied to the balls by pushing the pair of inner races with a gap between the axial end surfaces thereof to come closer to each other.

7. A bearing device comprising an outer race having an inner peripheral surface on which a pair of outer ring raceways are formed, a pair of inner races each having an outer peripheral surface on which an inner ring raceway is formed, a plurality of balls rotatably provided between the outer ring raceways and the inner ring raceways, a cylindrical sleeve provided on the radially inside of the pair of inner rings, the pair of inner races having an axial end surface, respectively, such that the axial end surfaces are opposed to each other, and the pair of inner races being fitted onto and fixed by the sleeve in the state where a desired preload is applied to the balls by pushing the inner races with a gap between the axial end surfaces thereof to come closer to each other.

8. A bearing device comprising a first and second outer races each having an inner peripheral surface on which an outer ring raceway is formed, a first and second inner races each having an outer peripheral surface on which an inner ring raceway is formed, a plurality of balls rotatably provided between the outer ring raceway and the inner ring raceway, the first and second outer races having an axial

end surface, respectively, such that the axial end surfaces are opposed to each other, the first and second inner races having first and second axial end surfaces, respectively, such that the first axial end surfaces are opposed to each other, and the first and second outer races fitted into and fixed to an outer member with the first axial end surfaces abutted to each other, and the first and second inner races fitted into and fixed to an inner member in the state where a desired preload is applied to the balls by pushing the pair of inner races with a gap between the first axial end surfaces thereof to come closer to each other, the inner member having an outer peripheral surface on part of which an outward flange is formed, the outward flange having an axial side surface to which the second axial end surface of the first inner race is abutted for use, wherein the axial length of the inner peripheral surface of the second inner race is larger than the axial length of the inner peripheral surface of the first inner race.